



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sorrells *et al.*

Appl. No. 09/550,644

Filed: April 14, 2000

For: **Method and System for Down-  
Converting an Electromagnetic Signal,  
Transforms for Same, and Aperture  
Relationships**

Art Unit: 2681

Examiner: J. Gelin

Atty. Docket: 1744.0010009

**RECEIVED**

MAY 16 2002

Technology Center 2600

**Supplemental Information Disclosure Statement**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Document AC46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/670,831, filed September 28, 2000, entitled "Universal Frequency Translation,

Embodiments Thereof, and a Web Site and Web Pages Directed to Same", directed to related subject matter.

Document AD46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,095, filed April 16, 1999, entitled "Method and System for Down-Converting an Electromagnetic Signal Having Optimized Switch Structures", directed to related subject matter.

Documents AE46-AI46 and AA47 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,342, filed April 16, 1999, entitled "Method and System for Down-Converting Electromagnetic Signals Including Resonant Structures for Enhanced Energy Transfer," directed to related subject matter. Also cited by the Examiner was U.S. Patent No. 5,767,726, which was previously cited in the present application in the Information Disclosure Statement, filed September 14, 2001.

Documents AN52 and AP55 were cited in an Examination Report in co-pending European Patent Application Serial No. 99954905.8, filed October 18, 1999, entitled "Integrated Frequency Translation and Selectivity with a Variety of Filter Embodiments," directed to related subject matter. Also cited in said report were German Patent No. DE4237692C1, PCT Publication Nos. WO 96/02977, WO 96/08078 and WO 96/39750, and U.S. Patent Nos. 5,483,721, 5,557,641 and 5,640,424, which were previously cited in the present application in the Information Disclosure Statement, filed September 14, 2001.

Documents AM13, AJ14, AK14 and AQ51 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,765, filed June 21, 2000, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter.

Documents AL14, AM14, AJ15 and AK15 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,761, filed June 20, 2000, entitled "Method and System for Frequency Up-conversion," directed to related subject matter.

Documents AL15, AM15, AJ16-AM16 and AJ17-AM17 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,764, filed June 21, 2000, entitled "Applications of Frequency Translation," directed to related subject matter.

Documents AJ18-AL18, AB47, AC47, AE47-AG47 and AB48 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/489,675, filed January 24, 2000, entitled "Bar Code Scanner Using Universal Frequency Translation Technology for Up-Conversion and Down-Conversion," directed to related subject matter.

Documents AD47 and AA48 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/376,509, filed August 18, 1999, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter. Also cited in said report was U.S. Patent No. 5,369,800, which was previously cited in the present application in the Information Disclosure Statement, filed September 14, 2001.

Documents AH47, AI47 and AA48-AE48 are co-owned patents which are directed to related subject matter.

Documents AF48 and AK19 were cited in an International Search Report in PCT Application Serial No. PCT/US01/15111, filed May 10, 2001, entitled "Method and Apparatuses Relating to a Universal Platform Module and Enabled by Universal Frequency Translation Technology," directed to related subject matter.

Documents AM18 and AJ19 were cited in an International Search Report PCT Application Serial No. PCT/US00/31659, filed November 20, 2000, entitled "Phase Shifting Applications of Universal Frequency Translation," directed to related subject matter. Also

cited in said report were U.S. Patent No. 4,855,894 and PCT Publication No. WO 99/23755, which were previously cited in the present application in the Information Disclosure Statement, filed September 14, 2001.

It is noted that some of these documents could be classified in more than one of the above categories.

The other documents in the PTO-1449 do not fall within the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- 1. This Information Disclosure Statement is being filed before the mailing of a first action on the merits. No statement or fee is required.
- 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.
  - a. I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
  - b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

- c. Attached is our Check No. 32067 in the amount of \$ \_\_\_\_\_ in payment of the fee under 37 C.F.R. § 1.17(p).
- 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. A separate Petition to the Group Director, requesting consideration of this Information Disclosure Statement, is concurrently submitted herewith, along with our Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ in payment of the fee under 37 C.F.R. § 1.17(i).
- a. I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
- b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- 4. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- 5. Concise explanations of the relevance of the non-English language documents AM13, AJ14-AM14, AJ15-AM15, AJ16-AM16, AJ17-AM17, AJ18-AL18 and AQ51 appear below:

Document AM13 (JP 56-114451) appears to describe a system for diversity radio transmission. The corresponding U.S. Patent No. 4,363,132 was cited in the Information Disclosure Statement, filed September 14, 2001.

Document AJ14 (JP 8-32556) appears to describe a data transmitter-receiver. A copy of the English language abstract of document AJ14 is enclosed as document AO52 on the attached PTO-1449.

Document AK14 (JP 8-139524) appears to describe a frequency converting circuit and radio communication device. A copy of the English language abstract of document AK14 is enclosed as document AP52 on the attached PTO-1449.

Document AL14 (JP 59-144249) appears to describe a pulse signal transmission system. A copy of the English language abstract of document AL14 is enclosed as document AQ52 on the attached PTO-1449.

Document AM14 (JP 63-54002) appears to describe a microwave burst signal generator which incorporates a FET frequency multiplier. A copy of the English language abstract of document AM14 is enclosed as document AR52 on the attached PTO-1449.

Document AJ15 (JP 6-237276) appears to describe a quadrature modulator. A copy of the English language abstract of document AJ15 is enclosed as document AN53 on the attached PTO-1449.

Document AK15 (JP 8-23359) appears to describe a digital quadrature modulation device. A copy of the English language abstract of document AK15 is enclosed as document AO53 on the attached PTO-1449.

Document AL15 (JP 47-2314) appears to describe a demodulator. A partial English language translation of document AL15 is enclosed as document AP53 on the attached PTO-1449.

Document AM15 (JP 58-7903) appears to describe a switched capacitor modulator. A partial English language translation of document AM15 is enclosed as document AQ53 on the attached PTO-1449.

Document AJ16 (JP 58-133004) appears to describe an amplitude detector. A copy of the English language abstract of document AJ16 is enclosed as document AR53 on the attached PTO-1449.

Document AK16 (JP 60-58705) appears to describe a frequency converting circuit. A copy of the English language abstract of document AK16 is enclosed as document AN54 on the attached PTO-1449.

Document AL16 (JP 4-123614) appears to describe a level converting circuit. A copy of the English language abstract of document AL16 is enclosed as document AO54 on the attached PTO-1449.

Document AM16 (JP 4-127601) appears to describe a frequency conversion circuit. A copy of the English language abstract of document AM16 is enclosed as document AP54 on the attached PTO-1449.

Document AJ17 (JP 5-175730) appears to describe a time division direct receiver. A copy of the English language abstract of document AJ17 is enclosed as document AQ54 on the attached PTO-1449.

Document AK17 (JP 5-175734) appears to describe an FM demodulator. A copy of the English language abstract of document AK17 is enclosed as document AR54 on the attached PTO-1449.

Document AL17 (JP 7-154344) appears to describe a receiver for receiving modulated carrier signals and an IQ mixer/demodulator using it's receiving constitution. A copy of the English language abstract of document AL17 is enclosed as document AN55 on the attached PTO-1449.

Document AM17 (JP 7-307620) appears to describe a bottom detection circuit. A copy of the English language abstract of document AM17 is enclosed as document AO55 on the attached PTO-1449.

Document AJ18 (JP 55-66057) appears to describe a bar-code detection circuit. A copy of the English language abstract of document AJ18 is enclosed as document AQ55 on the attached PTO-1449.

Document AK18 (JP 63-65587) appears to describe a wireless light pen device. A copy of the English language abstract of document AK18 is enclosed as document AR55 on the attached PTO-1449.

Document AL18 (JP 63-153691) appears to describe a data transfer for a semiconductor data carrier system. A copy of the English language abstract of document AL18 is enclosed as document AN56 on the attached PTO-1449.

Document AQ51 (Miki *et al.*) appears to describe modulation systems. A partial English-language translation of document AQ51 is enclosed as document AR51 on the attached PTO-1449.

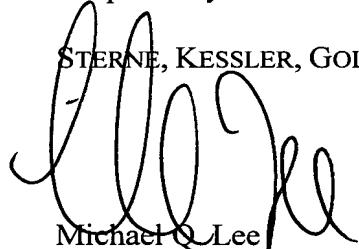
☒ 6. Copies of documents AF48, AM18, AJ19 and AK19 are enclosed. Copies of the remaining documents were cited to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. 09/293,342, filed April 16, 1999, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

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May 14, 2002

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MAY 16 2002

Technology Center 2600

Art Unit 2681

Commissioner for Patents  
Washington, D.C. 20231

Re: U.S. Non-Provisional Utility Patent Application  
Appl. No. 09/550,644; Filed: April 14, 2000  
For: **Method and System for Down-Converting an Electromagnetic  
Signal, Transforms for Same, and Aperture Relationships**  
Inventors: Sorrells *et al.*  
Our Ref: 1744.0010009

Sir:

Transmitted herewith for appropriate action are the following documents:

1. Supplemental Information Disclosure Statement;
2. Form PTO-1449 listing sixty-eight (68) documents and accompanied by four (4) documents; and
3. One return postcard.

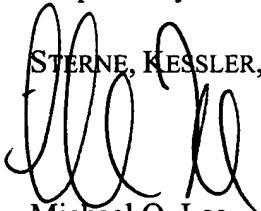
It is respectfully requested that the attached postcard be stamped with the date of filing of these documents and returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

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8  
S-17-02

Commissioner for Patents  
May 14, 2002  
Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

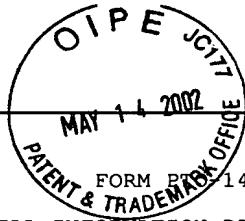
  
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Michael Q. Lee  
Attorney for Applicants  
Registration No. 35,239

Enclosures

MQL/VLB/sjc

SKGF\_DC1:13485.1



FORM PTAB 1449

## SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

ATTY. DOCKET NO.  
1744.0010009APPLICATION NO.  
09/550,644APPLICANT  
Sorrells et al.FILING DATE  
April 14, 2000GROUP  
2681

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA						
	AB						
	AC46	5,369,404	11/1994	Galton	341	143	
	AD46	3,716,730	02/1973	Cerny, Jr.	307	295	MAY 16 2002
	AE46	4,080,573	03/1978	Howell	325	439	Technology Center 2000
	AF46	4,334,324	06/1982	Hoover	455	333	
	AG46	4,369,522	01/1983	Cerny, Jr. et al.	455	333	
	AH46	5,465,418	11/1995	Zhou et al.	455	332	
	AI46	5,513,389	04/1996	Reeser et al.	455	311	

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AJ						
	AK						
	AL						
	AM13	JP 56-114451	09/1981	JP	H04B	7/02	No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AN			
	AO			
	AP			
	AQ	51	Miki, S. and Nagahama, R., <i>Modulation System II</i> , Common Edition 7, Kyoritsu Publishing Co., Ltd., pp. 146-154 (April 30, 1956).	
	AR	51	Miki, S. and Nagahama, R., <i>Modulation System II</i> , Common Edition 7, Kyoritsu Publishing Co., Ltd., pp. 146-149 (April 30, 1956). (Partial Translation of Doc. AQ51).	

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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ATTY. DOCKET NO.  
1744.0010009APPLICATION NO.  
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SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

APPLICANT  
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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA47	5,959,850	09/1999	Lim	363	17	
	AB47	5,157,687	10/1992	Tymes	375	1	
	AC47	5,945,660	08/1999	Nakasui et al.	235	462.46	
	AD47	6,091,939	07/2000	Banh	455	102	02/18/1997
	AE47	6,091,941	07/2000	Moriyama et al.	455	126	11/16/1998
	AF47	6,098,886	08/2000	Swift et al.	235	472.01	01/21/1998
	AG47	6,215,475 B1	04/2001	Meyerson et al.	345	173	06/07/1995
	AH47	6,049,706	04/2000	Cook et al.	455	313	10/21/1998
	AI47	6,061,551	05/2000	Sorrells et al.	455	118	10/21/1998

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AJ14	JP 8-32556	02/1996	JP	H04L	1/04	No
	AK14	JP 8-139524	05/1996	JP	H03D	7/00	No
	AL14	JP 59-144249	08/1984	JP	H04L	27/00	No
	AM14	JP 63-54002	03/1988	JP	H03B	19/114	No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AN	<u>52</u>	Rabiner, L.R. and Gold, B., <i>Theory And Application Of Digital Signal Processing</i> , Prentice-Hall, Inc., pp. xiii-xii and 40-46 (1975).
AO	<u>52</u>	English-language Abstract of Japanese Patent Publication No. 08-032556, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (February 2, 1996 - Date of publication of application).
AP	<u>52</u>	English-language Abstract of Japanese Patent Publication No. 08-139524, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (May 31, 1996 - Date of publication of application).
AQ	<u>52</u>	English-language Abstract of Japanese Patent Publication No. 59-144249, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (August 18, 1984 - Date of publication of application).
AR	<u>52</u>	English-language Abstract of Japanese Patent Publication No. 63-054002, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (March 8, 1988 - Date of publication of application).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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ATTY. DOCKET NO.  
1744.0010009APPLICATION NO.  
09/550,644

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

APPLICANT  
Sorrells et al.FILING DATE  
April 14, 2000

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA48	6,061,555	05/2000	Bultman et al.	455	313	10/21/1998
	AB48	6,091,940	07/2000	Sorrells et al.	455	118	10/21/1998
	AC48	6,266,518 B1	07/2001	Sorrells et al.	455	118	08/18/1999
	AD48	6,353,735 B1	03/2002	Sorrells et al.	455	118	08/23/1999
	AE48	6,370,371 B1	04/2002	Sorrells et al.	455	323	03/03/1999
	AF48	5,628,055	05/1997	Stein	455	89	
	AG						
	AH						
	AI						

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AJ15	JP 6-237276	08/1994	JP	H04L	27/20	No
	AK15	JP 8-23359	01/1996	JP	H04L	27/20	No
	AL15	JP 47-2314	02/1972	JP	---	---	No
	AM15	JP 58-7903	01/1983	JP	H03C	1/02	No

## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AN	<u>53</u>	English-language Abstract of Japanese Patent Publication No. 06-237276, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (August 23, 1994 - Date of publication of application).
AO	<u>53</u>	English-language Abstract of Japanese Patent Publication No. 08-023359, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (January 23, 1996 - Date of publication of application).
AP	<u>53</u>	Partial Translation of Japanese Patent Publication No. 47-2314, 3 pages.
AQ	<u>53</u>	Partial Translation of Japanese Patent Publication No. 58-7903, 3 pages.
AR	<u>53</u>	English-language Abstract of Japanese Patent Publication No. 58-133004, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (August 8, 1993 - Date of publication of application).

EXAMINER

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
AA							
AB							
AC							
AD							
AE							
AF							
AG							
AH							
AI							

## FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AJ16	JP 58-133004	08/1983	JP	H03D	1/00	No
	AK16	JP 60-58705	04/1985	JP	H03D	7/00	No
	AL16	JP 4-123614	04/1992	JP	H03K	19/0175	No
	AM16	JP 4-127601	04/1992	JP	H03D	7/00	No

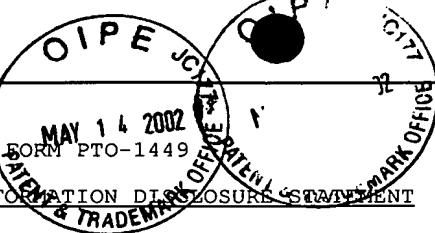
## OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AN	<u>54</u>	English-language Abstract of Japanese Patent Publication No. 60-058705, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (April 4, 1985 - Date of publication of application).
	AO	<u>54</u>	English-language Abstract of Japanese Patent Publication No. 04-123614, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (April 23, 1992 - Date of publication of application).
	AP	<u>54</u>	English-language Abstract of Japanese Patent Publication No. 04-127601, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (April 28, 1992 - Date of publication of application).
	AQ	<u>54</u>	English-language Abstract of Japanese Patent Publication No. 05-175730, from <a href="http://www1.ipdl.jpo.go.jp">http://www1.ipdl.jpo.go.jp</a> , 2 Pages (July 13, 1993 - Date of publication of application).
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